

## **Potential of *Trichoderma harzianum* as cellulose biodegrade in biocomposting of paddy straw**

### **ABSTRACT**

The present study was conducted to screen the significant cellulase (cellulolytic enzyme) produced by locally isolated fungi, *Trichoderma harzianum* using submerged culture system. Screening of the cellulase was conducted using carboxymethylcellulase (CMC) plate assay to assist in determining of the microorganism potential as biodegrader. The highest diameter of inhibition zone around the *T.harzianum* colony which was grown on CMC agar was recorded at 1.9cm from a culture that used CMC supplemented with instant yeast. The culture with the best morphology was observed after 6 days incubation at temperature of 28°C and agitation speed of 150rpm. The biocomposting study on paddy straw showed that the waste is suitable for biocompost production with the lowest C:N ratio of 17.5 after 90 days of composting period.

**Keyword:** Cellulase; Biocomposting; Fermentation; *Trichoderma harzianum*